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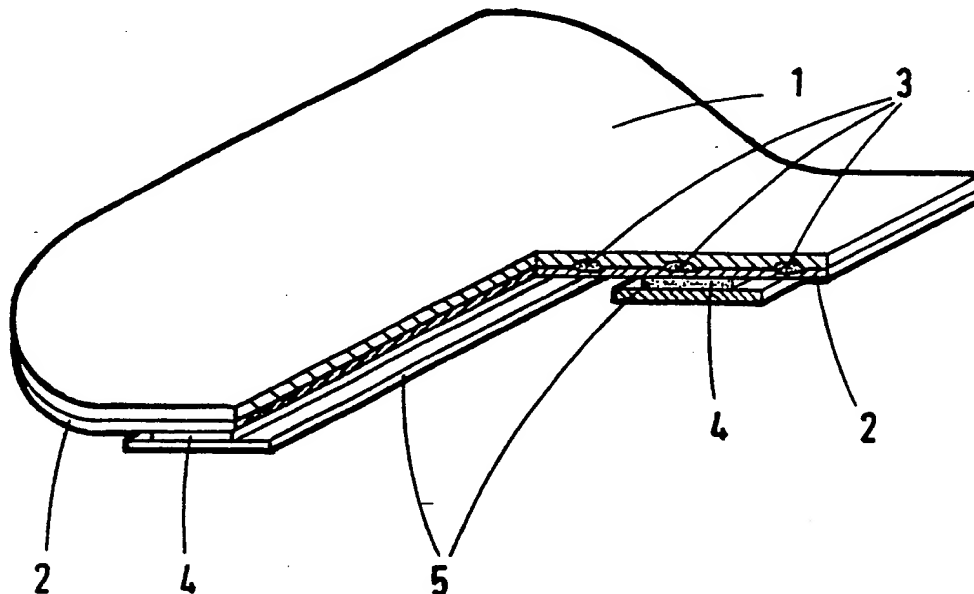
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(56) Documents cited
GB 2179257 A GB 2175024 A EP 0176305 A
EP 0140470 A US 4690679 A

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(54) **Absorbent pant liner**

(57) A pant liner comprises a unitary absorbent layer 1 of non-woven fabric containing particles of a super absorber. The fabric is bonded to a liquid impervious polyethylene sheet 2. The garment facing surface of the backing sheet can be provided with adhesive means such as adhesive strips 4 covered by a release covering 5.



At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

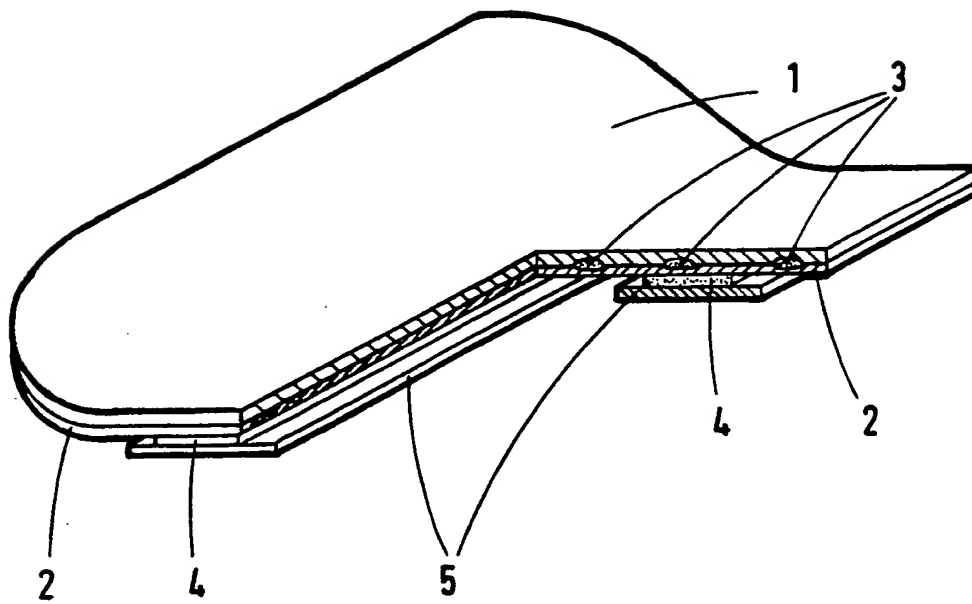
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The claims were filed later than the filing date within the period prescribed by Rule 25(1) of the Patents Rules 1982.

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INCONTINENCE DEVICE

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This invention relates to sanitary protection wear. More particularly, the invention relates to pant liners.

Pant liners are employed to protect clothing from soiling and are used by those suffering from stress incontinence.

Such liners should desirably be inconspicuous, non obtrusive to the wearer and yet be able to retain as much as 25ml of urine without leakage.

Known pant liners have a body contacting layer or coverstock, an intermediate core of absorbent material and a liquid impervious backing layer to prevent leakage onto adjacent clothing. In order to provide good fluid absorption and retention characteristics, cores are typically composite structures having an outer section surrounding an inner core. The outer core has properties which enable the fluid to be readily absorbed whilst the inner core material has high fluid retention properties. The use of a coverstock layer separates the core from the wearer's

skin and thus reduces or eliminates 'wet-back' of the absorbed fluid.

The shield or backing layer is made from a fluid impervious material and may be provided with means such as adhesive tabs or strips, for attaching the liner to the inside of the pant etc.

Recent developments in materials suitable for use as core materials have resulted in the use of materials known as 'superabsorbers'. The materials generally have unsaturated carbon-carbon bonds, and have found application in the diaper and sanitary towel fields where they have been used as powders forming an inner core surrounded by a fibrous material.

We have now found that such materials can be used for pant liners without employing the traditional core structures.

According to the present invention there is provided a pant liner comprising a unitary layer of non woven fabric containing particles of a super absorber and wherein said fabric is bonded to a fluid impervious backing sheet.

The non woven fabric may be a multicomponent fibrous fabric, the fibres of which are bonded together. Suitably at least one of the fibre components has a sufficiently low softening point to enable the fibres to be thermally bonded together to form the non woven fabric layer. Preferably the component fibres are a mixture of cellulosic and polyolefin fibres. More preferably the fabric comprises a mixture of cellulose and high density polyolefin such as high density polyethylene. High density polyolefin fibres are commercially available under the name "Pulpex". Commercially available thermally bonded non woven fabrics comprising cellulose and "Pulpex" fibres and incorporating super absorbers are marketed under the name "Cell-o-soft" by Dry Forming Processes AB, Sweden.

Bonded to the non-body-contacting surface of the absorbent layer is a layer of a liquid impervious material such as polyethylene. This sheet material may be bonded to the absorbent layer by conventional means eg by adhesive materials such as a hot melt adhesive. On the garment facing surface of the liquid impervious sheet means are provided for attaching the pant liner to the garment. These means may be in the form of adhesive tabs or strips extending longitudinally along the garment facing surface and covered by a suitable

release covering eg a tape. The release covering can be removed and the surface bearing the adhesive face or faces presented to the garment prior to wearing of the garment.

Unlike known pant liners, those of the present invention combine good fluid retention with slim physical dimensions, and without the need for a body-contacting coverstock layer.

The invention will be illustrated by reference to the accompanying drawing which is schematic perspective view of a pant liner according to the invention.

The pant liner comprises a bat (1) of an absorbent non-woven fabric containing superabsorber. The bat is secured to a plastic shield (2) by adhesive 3. Adhesive 3 may be laid in continuous strips from end to end or may be randomly placed in spots or patches over the non-body contacting surface of bat (1). The adhesive may be a hot melt adhesive. On the garment-contacting surface of shield (2) adhesive strips (4) or tabs (not shown) are provided for securing the pant liner to the interior of the garment. The adhesive may be a hot melt adhesive directly applied to the surface of the shield or may be a strip of film bearing adhesive coated on both sides. To

protect the integrity of the garment-contacting adhesive surface release tapes (5) are provided to temporarily cover the adhesive coating. The tapes may be made of conventional materials.

In use the release tapes are removed from the adhesive on the shield. The liner is then affixed to the interior of the garment in the appropriate place for the liner to contact the perianal region when the garment is worn.

Claims

1. A pant liner comprising a unitary absorbent layer of non-woven fabric containing particles of super absorber and wherein said fabric is bonded to a fluid impervious backing sheet.
2. A pant liner as claimed in claim 1 in which the non-woven fabric is a thermally bonded fabric.
3. A pant liner as claimed in either of claims 1 or 2 in which the non-woven fabric comprises a mixture of cellulosic and polyolefin fibres.
4. A pant liner as claimed in claim 3 in which the polyolefin fibres are high density polyethylene fibres.
5. A pant liner as claimed in any of claims 1 to 4 in which the fluid impervious backing sheet is a liquid impervious polyethylene sheet.
6. A pant liner as claimed in any of claims 1 to 5 in which the fluid impervious backing sheet is bonded to the non-body contacting surface of the absorbent layer by adhesive.

7. A pant liner as claimed in claim 6 in which the adhesive is in the form of strips.
8. A pant liner as claimed in either of claims 6 or 7 in which the adhesive is a hot melt adhesive.
9. A pant liner as claimed in any of claims 1 to 8 in which the garment facing surface of the fluid impervious backing sheet is provided with adhesive means for attaching the pant liner to the garment.
10. A pant liner as claimed in claim 9 in which the adhesive means are in the form of an adhesive strip extending longitudinally along the garment facing surface of the backing sheet.
11. A pant liner as claimed in claim 10 in which the adhesive strips are covered by a release tape.
12. A pant liner as claimed in any one of the preceding claims and substantially as hereinafter described with reference to the drawings.

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